

MEMORANDUM

State of Alaska

TO: ☐ Mr. Roger Wadman
Division of Sport Fish
ADF&G, Wrangell

DATE : July 16, 1963

FROM: G. L. Ziemer, Director
Division of Engineering & Services
ADF&G, Juneau

SUBJECT: Swan Lake Diversion, Sitka

I am submitting this in the belief that it will be of interest to you. In checking the work of Mr. Ballard, engineer on the Sitka Urban Renewal Project, and the physical installation at the outlet of the Lake through Sawmill Creek Boulevard, I find that the two outlet pipes flowing full will discharge approximately 215 cfs. This maximum discharge, in my opinion, is limited by a tailwater control station downstream of the outlet culverts. This is quite a bit different from the 500 cfs of Mr. Ballard. His proposed 4.5 ft. square box flume would pass this discharge at a 3.2 ft. depth at a velocity of 14.94 fs. It is my opinion that no upstream migrant can make the 960 ft. long flume with water at this velocity and that it would constitute a total block to upstream migrants. I have also checked the velocity at minimum depth and find that it constitutes a total block throughout its entire range of possible flows.

As we discussed at the site, I believe the only logical requirement for this outlet flume as proposed is to provide a screen across the outlet of sufficient length to provide a velocity through the screen not to exceed 2 fs. Depending upon the type of screen used, this would require approximately a 4 ft. deep by 55 ft. long installation.

We will be glad to answer any further questions you may have in regard to this project.

GLZ:cw

cc: Mr. Huizer